

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 September 2005 (15.09.2005)

PCT

(10) International Publication Number
WO 2005/084180 A2

- (51) International Patent Classification: Not classified
- (21) International Application Number:
PCT/US2004/042948
- (22) International Filing Date:
20 December 2004 (20.12.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/531,399 19 December 2003 (19.12.2003) US
60/574,131 25 May 2004 (25.05.2004) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: POLYAMIDES AND POLYAMIDE COMPLEXES FOR DELIVERY OF OLIGONUCLEOTIDE DECOYS

(57) Abstract: The present invention provides a new class of non-viral transduction vectors that can be used for both *in vivo* and *in vitro* applications. In particular, these vectors can be used for gene transfer applications. These new gene transduction vectors can achieve transfer efficiencies far greater to commercially available polymeric and liposomal gene transfer vectors while maintaining little or no toxicity *in vitro*. Their low *in vitro* toxicity makes them ideal candidates for *in vivo* use. The present invention also provides a gene transfer vector that has comparable efficiency to a viral vector without the potential for a life-threatening immune response. Furthermore, the unique polycationic structure of these polymers associates with many suitable biologically active molecule, including oligonucleotides and polypeptides and other compounds that poses multiple cationic sites. The polymer can act as a delivery vehicle for the associated biologically active molecule, *in vivo* or *in vitro*, to the cells of interest for the biologically active molecule. Complexes according to the invention or portions thereof, can comprise a cellular delivery molecule or agent that can facilitate the translocation of the complex or portion thereof into cells. In some embodiments, cellular delivery molecules for use in the present invention may comprise one or more one or more polymers of the present invention, e.g., polyamides, dendritic macromolecules (polymers comprising an oligoamine shell and a cyclodextrin core), and carbohydrate-containing degradable polyesters.

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